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BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE
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May 27, 2004

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Re: (DOE/EIS-0348 and DOE/EIS-0236-S3) Draft Site-wide Environmental Impact Statement for Continued Operation of Lawrence Livermore National Laboratory and Supplemental Stockpile Stewardship and Management Programmatic Environmental Impact Statement, February 2004

On behalf of the Blue Ridge Environmental Defense League, I write to comment on the Draft Site-wide Environmental Impact Statement for Lawrence Livermore National Laboratory. I have reviewed documents provided by the DOE/NNSA and other data in preparation of these remarks.

These are our most significant findings:

1. Cancer fatalities from accidental release are nearly tripled by the increased volume of radioactive plutonium at the Plutonium Facility outlined in the Proposed Action.
2. In little more than a decade LLNL has increased its need for plutonium by 650%.
3. DOE/NNSA's Integrated Technology Project would begin to produce plutonium and enriched uranium in 2008 for the production of new plutonium weapons.
4. The Nuclear Posture Review cannot rightly be used to justify additional negative impacts on the environment and public health.
5. The DOE/NNSA failed to address the historical impacts of radioactive contamination of the atmosphere caused by activities at LLNL.
6. DOE/NNSA failed to properly take into account information provided in scoping documents.
7. Four facilities have been categorically excluded from NEPA review: The Container Security Testing Facility, Central Cafeteria Replacement, International Security Research Facility, and the Waste Isolation Pilot Plant Mobile Vendor.
8. Waste Transport Risks to the general public are increased by the Proposed Action.
9. DOE/NNSA fails to adequately address additional electric power needs of its Proposed Action in the draft EIS.

1/23.01 We have the following recommendations with regard to the draft LLNL SW-EIS.

1. DOE/NNSA must go back to the drawing board and do a credible assessment of health impacts on the workers and the general public caused by routine and accidental radiation.

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2/02.01 2. DOE/NNSA should not pursue the production of new atomic weapons, termed vertical proliferation, which is prohibited by the Nuclear Non-Proliferation Treaty.

01.01 3. DOE/NNSA has not sufficiently demonstrated a need for increased environmental impacts and public health risks under all three alternatives; therefore, an overall reduction in operations is the only option under NEPA.

3/06.01

The Nuclear Posture Review is used to rationalize the proposed actions at Lawrence Livermore National Laboratory. We submit that the NPR cannot rightly be used to justify additional negative impacts on the environment and public health because its findings are contrary to international law and treaty agreements ratified by Congress and signed by the President of the United States and are, therefore, constitutional requirements.

4/01.01 DOE developed several goals in its draft NNSA Strategic Plan to achieve its missions in support of the nuclear posture review. The nuclear weapons stewardship goal is to ensure that our nuclear weapons continue to serve their essential deterrence role by maintaining and enhancing the safety, security, and reliability of the U.S. nuclear weapons stockpile. Achieving these goals requires the continued operation of LLNL.

NNSA has developed strategic objectives to support the DOE strategic goals. The strategic objectives that support the nuclear posture review and relate to the purpose for continued operations of LLNL are listed below:

- Conduct a program of warhead evaluation, maintenance, refurbishment, and production planned in partnership with the U.S. Department of Defense
- Develop the scientific, design, engineering, testing, and manufacturing capabilities needed for long-term stewardship of the stockpile (emphases added)

[LLNL SW/SPEIS, p. S-2]

Specifically, the Nuclear Non-Proliferation Treaty obligates all nations party to the agreement to reduce nuclear weapons stockpiles, to halt nuclear weapons production, and to end the arms race. It certainly prohibits "design, engineering, testing, and manufacturing capabilities."

Overview

Lawrence Livermore National Laboratory (LLNL) is located on an 821-acre site three miles from downtown Livermore, California. Since 1952 LLNL has been operated by the University of California to design nuclear weapons. LLNL originated four weapons systems: the W87 and W62 intercontinental ballistic missile warheads, the B83 bomb, and the W84 cruise missile. LLNL is the site of the National Ignition Facility (NIF) slated to begin operation in 2008. The NIF would do nuclear weapons experiments including fusion ignition, high energy density, and radiation effects.

5/06.01 Alternatives analyzed in this LLNL SW/SPEIS include the No Action Alternative, the Proposed Action, and the Reduced Operation Alternative. We support elements of the Reduced Operation Alternative which actually reduce damage to the natural environment and public health. We do not support the new and expanded activities which are also proposed by the Reduced Operation Alternative.

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<p>Public Health and Worker Safety Would Not Be Protected</p>		
6/23.02	<p>The DOE/NNSA failed to address the historical impacts of radioactive contamination of the atmosphere caused by activities at LLNL. Furthermore, the DOE/NNSA failed to properly take into account information provided in scoping documents. The draft EIS states:</p> <p>Scoping Comments also indicated that the LLNL SW/SPEIS should evaluate the increased levels of melanoma and birth defects in Livermore, California. An investigation of cancer among LLNL employees did not identify any link between employment at LLNL and increased risk of cancer. Another study found that the cancer rates among children and young adults in the city of Livermore do not differ appreciably from elsewhere in Alameda County. Another study found that birth defect rates in Livermore are similar to the overall rates for the state of California. Therefore, an analysis of the rates for melanoma or birth defects in the city of Livermore was not included in this LLNL SW/SPEIS. " (page S-8)</p> <p>The assumptions in the draft EIS belie the facts. A Clark University study of negative health impacts in the Livermore area, entitled "A Critical Review of an ATSDR Public Health Assessment for Lawrence Livermore National Laboratory," yielded a stunningly different picture.</p> <p>Two large accidental releases of radioactive gas and water vapor occurred at LLNL which emitted a total of approximately 650,000 curies into the atmosphere. Human error and equipment failures at LLNL were cited as the causes for these accidents. At the time of the first accident, LLNL managers assumed that the plume of radioactive gas would not touch the ground and therefore recorded no quantitative data on the release. A simple gaussian atmospheric dispersion model of the accident performed by engineers at the time could have revealed that this assumption was wrong. But the most damning critique is reserved for the recent health assessment by the Agency for Toxic Substances and Disease Registry (ATSDR) which is charged with assessing health impacts.</p>	
7/23.05, 23.01	<p>The ATSDR's draft Public Health Assessment of LLNL shares with DOE/NNSA a similar conclusion: that the radioactive contamination which occurred is not a public health concern. However, as the authors of the Clark University review have shown, ATSDR's assessment is woefully inaccurate.</p> <p>The [ATSDR] Assessment process was marked by a lack of responsiveness to community concerns, a series of contradictory documents, and very limited attention to establishing a record of what happened in the accidents...ATSDR lost its opportunity to serve as an honest broker on these issues and thus departed from its defined public health mission." (Perspectives on Nuclear Weapons and Community Health, Russ and Goble, February 2004)</p> <p>ATSDR ignored models which predicted higher levels of radioactive dose to the public. Independent estimates show three to four times higher levels of exposure¹. The Agency used the widely discredited threshold hypothesis to estimate zero radiation impacts. Scientific consensus supports the linear model which holds that very low doses of radiation do have an impact. The Clark review concludes:</p>	
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<p>The inferences drawn in the [ATSDR] Assessment directly subvert the principle of reducing hazards to a level 'as low as reasonably achievable' (ALARA), a cornerstone of the social compact for managing radiological hazards. The impression left by the document is indifference to significant releases of tritium in a populated area and indifference to community concerns.</p>		
<p>The DOE/NNSA in publishing their draft EIS appears to follow in the footsteps of the ATSDR's discredited health impact assessment.</p>		
<p>The draft EIS states that radioactive pollutants released to the atmosphere would be low under the No Action Alternative, the Proposed Action, and the Reduced Operation Alternative. But the admitted impacts on public health should be considered. The draft EIS states:</p>		
7/23.05, 23.01 cont.	<p>S.6.5 Radiological Air Quality There are differences among the No Action Alternative, Proposed Action, and Reduced Operation Alternative regarding the potential radiological air quality impacts, all of which would be low. The maximally exposed individual (MEI) would be located due east of the NIF, once the NIF becomes operational. The MEI dose for the Livermore Site under the No Action Alternative would be 0.1 millirem per year. This compares to an MEI dose of 0.13 millirem per year under the Proposed Action and 0.09 millirem per year under the Reduced Operation Alternative. The population dose for the Livermore Site would be 1.8 person-rem per year under the No Action Alternative, Proposed Action, and the Reduced Operation Alternative. At Site 300, the MEI would be located west-southwest of Firing Table 851, the only outdoor firing facility that would use tritium. The MEI dose at Site 300 would be 0.055 millirem per year under the No Action Alternative and the Proposed Action, and 0.054 under the Reduced Operation Alternative. The population dose for Site 300 would be 9.8 person-rem per year under the No Action Alternative, Proposed Action, and Reduced Operation Alternative.</p>	
<p>The Clark University independent assessment estimates that 80% of the health impacts from LLNL were accidental; the remaining 20% would therefore be from routine releases. Russ and Goble show that, as a result of the earlier accident, the dose to the "maximally exposed adult was 82 millirem," and the "estimate for a maximally exposed 5-yr old was 134 mrem."</p>		
<p>DOE/NNSA must go back to the drawing board and do a credible assessment of health impacts on the workers and the general public caused by routine and accidental radiation exposure caused by Lawrence Livermore National Laboratory.</p>		
<p>Specific Comments on the Draft Site-wide Environmental Impact Statement</p>		
8/05.01	<p>S.5.1 No Action Alternative</p> <p>The term "No Action Alternative" is deceptive because its implementation would in fact expand operations at LLNL and add 550 plant personnel. This alternative includes the following additional activities: National Ignition Facility, BioSafety Level 3 Facility, Terascale Simulation Facility, Superblock Stockpile Stewardship Program Operations, Container Security Testing, security upgrades, decontamination and decommissioning of some facilities, and the packaging and shipping of over 1,000 drums of radioactive transuranic waste to New Mexico's WIPP. The</p>	
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9/38.01, 31.09, 05.01	DOE/NNSA is expecting approval of these additional activities to fulfill its obligations under the NEPA but has categorically excluded several from review: The Container Security Testing Facility, Central Cafeteria Replacement, International Security Research Facility, and the Waste Isolation Pilot Plant Mobile Vendor. Others have been issued a FONSI: Terascale Simulation Facility, BSL-3 Facility, and security upgrades. The draft EIS includes the following exemption: <u>S.5.1.5 Container Security Testing Facility</u> The Container Security Testing Facility is a planned NNSA facility wherein an intermodal cargo container can be introduced, with a variety of contents, and evaluated while stationary, moving laterally, being lifted, or being stacked. Various actual or simulated threat materials that could be illicitly introduced to the U.S. for the purposes of terrorists would be loaded in the container along with other contents. These configurations would then be used to challenge the best available detection methods. The construction would start in FY2005. Facility lifetime is 30 years. DOE determined that this facility was categorically excluded from further NEPA review. These facilities and operations at LLNL must not be excluded from further NEPA review and all FONSI's should be reviewed under this draft EIS. <u>S.5.2 Proposed Action</u> Under the Proposed Action, DOE/NNSA is planning experiments using plutonium, other fissile materials, and lithium hydride for nuclear weapons effects tests at the National Ignition Facility as outlined in A.R. doc VII.A-4; therefore, DOE must analyze the reasonably foreseeable environmental impact of such experiments as required under Memorandum Opinion and Order, August 1998 [NRDC v. Peña, Civ. No. 97-936(SS) (D.D.C.)] and 10 C.F.R.1021.314. In November 2002, the NNSA Deputy Administrator for Defense Programs approved proposing experiments on the NIF using plutonium, other fissile materials, fissionable materials, and lithium hydride. NNSA has chosen to use the LLNL SW/SPEIS as the mechanism for complying with the court's instruction to prepare a supplemental SSM PEIS. ² (S.5.2.1, page S-14) In order to conduct such experiments, LLNL would have to store plutonium on site. In 1992 the DOE estimated 200 kilograms would suffice; in 1999 the capacity was raised to 700 kilograms. Now DOE proposes to increase the storage capacity to 1,500 kilograms. In little more than a decade LLNL has increased its need for plutonium by 650%, an annual growth rate of 108 kg. ³ (S.5.2.2, p. 14) This is a disturbing trend which cannot be justified. Security is touched on briefly. However, the proposed action's security measures are predicated on documents unavailable to the affected public. The Superblock plutonium inventory is stored in robust vaults and no accident scenario involving the material in the vaults is considered reasonably foreseeable. Terrorist acts and Superblock security are considered in the LLNL SW/SPEIS. The information on these accidents is provided in classified or official use only documents. The accidents discussed in the LLNL SW/SPEIS bound the environmental impacts associated with the proposed higher plutonium inventory limit. ² (S.5.2.2, p. 15) The Proposed Action would triple the amount of plutonium allowed to be used in experimental
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13/33.01 cont.	processes. If permitted, the risk of latent cancer fatalities during an accident would also increase to 288% of the present risk to plant workers and the general public. ² The draft EIS states: <u>S.5.2.4 Increased Material-at-Risk Limit for the Plutonium Facility</u> The Proposed Action would increase the plutonium material-at-risk limit from 20 to 60 kilograms of fuel-grade equivalent plutonium in each of two rooms of the Plutonium Facility. This increase is needed to meet future Stockpile Stewardship Programs such as ITP and the casting of plutonium parts. These activities support campaigns for advanced radiography, pit manufacturing, and certification programs. If the material-at-risk is increased, the bounding Plutonium Facility accident consequences to the population surrounding LLNL would increase from an aircraft crash resulting in 3.82×10^{-2} latent cancer fatalities (LCFs) per year under the No Action Alternative to an unfiltered fire involving 60 kilograms fuel-grade equivalent plutonium resulting in 1.68×10^{-1} LCFs per year under the Proposed Action. A material-at-risk limit is defined as the maximum amount of the referenced material that is involved in the process and thus at risk in the event of a postulated accident. Material locked in secure storage is not considered material at risk. The draft document prepared by DOE/NNSA specifies that this cancer increase is caused by the fissile materials being used in the lab at any given time, not by the total locked in storage. There is no justification offered for thus increasing the real risks of radiation exposure. Indeed, there cannot be. The DOE/NNSA plans an Advanced Materials Program to develop Atomic Vapor Laser Isotope Separation (AVLIS) technology. If AVLIS is successful, the Integrated Technology Project would then begin to produce plutonium and enriched uranium, expected to start in 2008. The stated purpose of this effort is for the production of new plutonium weapons. As stated above, the production of new atomic weapons, termed vertical proliferation, is prohibited by the Nuclear Non-Proliferation Treaty. Waste Transport Risks to the general public are increased by the Proposed Action. The draft EIS states: <u>S.5.2.15 Direct Shipment of Transuranic Wastes from the Superblock</u> NNSA is proposing to develop the capability to load transuranic waste into pipe overpacks in the Superblock, beginning in FY2005. These pipe overpacks would allow for significantly higher actinide loading into each drum for disposal at WIPP. The proposed pipe overpack would allow up to 80 plutonium-equivalent curies per drum and up to 200 fissile-gram equivalents. The pipe overpack provides a way for LLNL to dispose of waste, such as plutonium with high americium levels. The pipe overpack can be loaded and stored into Transuranic Package Transporter-II (TRUPACT-II) shipping containers, and shipped from Superblock to WIPP without increasing the nuclear material inventory or hazard levels in other LLNL facilities. The TRUPACT-II shipping containers would be loaded to the limits of the WIPP waste acceptance criteria. ² (Summary, page S-19) TRUPACT containers testing is inadequate. The tests utilized computer modeling in lieu of actual crash testing. The real world implications for terrorist attacks and accidents have never been properly assessed; therefore, the DOE/NNSA must include a credible transport impact
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The Reduced Operation Alternative would result in smaller routine releases of radioactive tritium to the atmosphere both at the Livermore lab and at the more remote Site 300. The trade-offs posed in the draft EIS would save 50 curies of radionuclide releases to the environment and would not compromise national security.

S.5.3.7 Reduce Number of Hydroshots at Site 300


NNSA proposes fewer detonation experiments containing tritium at Site 300 firing tables or the Building 801 Contained Firing Facility, resulting in a reduction in the maximum annual tritium emissions to 150 curies versus 200 curies under the No Action Alternative. Other types of experiments, e.g., environmental testing of explosives assemblies, would continue unchanged from the No Action Alternative in the number of experiments and amounts of tritium. The programmatic impacts of this alternative would include less confidence in the evaluation of nuclear weapons systems.

17/06.01

The Reduced Operation Alternative would discontinue dangerous projects including the Advanced Materials Program and the AVLIS, meaning that laser separation of plutonium and other radioactive isotopes would not take place. Also, the Plutonium Facility Engineering Demonstration System would be mothballed. Ending these experiments would have immediate beneficial effects; as stated in the LLNL SW/SPEIS: "These changes would reduce specific environmental impacts such as transuranic waste generation and worker dose." (S.5.3.1) As further acknowledged in the EIS, LLNL would not reduce safety and security at the site in any case. Whereas DOE/NNSA has not sufficiently demonstrated a need for increased environmental impacts and public health risks, the Reduced Operation Alternative is the only option under NEPA.

Thank you for the opportunity to present these comments. I hereby request to be apprised of any interim or final agency decisions with regards to this action.

Respectfully,


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Footnotes

1. A Critical Review of an ATSDR Public Health Assessment for Lawrence Livermore National Laboratory, *Perspectives on Nuclear Weapons and Community Health*, Russ and Goble, February 2004

2. Draft Site-wide Environmental Impact Statement for Continued Operation of Lawrence Livermore National Laboratory and Supplemental Stockpile Stewardship and Management Programmatic Environmental Impact Statement, February 2004 (DOE/EIS-0348 and DOE/EIS-0236-S3)

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Tom Grim, DOE, NNSA, L-293
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Dear Mr. Grim,

14 May 2004

Most of us would believe that the demise of the former Soviet Union and announced cooperative effort between the United States and Russia and other nations to unite against "terrorism" would signal an era when huge atomic weapons and their delivery systems could be de-emphasized in favor of much smaller conventional weapons with new, high-tech delivery systems allowing for clean, "surgical" strikes.

Hogwash.

That's what I say after reading a basic description of the next ten year plan for Lawrence Livermore Labs. Sounds to me like we're revving up bomb production to a new level of insanity.

I always wonder why these things never make headlines. Between the tripling of the amount of plutonium the Lab can handle, restarting the plutonium atomic vapor laser isotope separation program, increasing the amount of tritium used tenfold, and attempting to create controlled thermonuclear explosions in the National Ignition Facility, you're going to have a very hard time convincing me that the Cold War ever ended.

Indeed, I sense the distinct possibility for a very hot war.... and for no good reason. It is entirely unclear to me that a single, thoughtfully detonated nuclear weapon could have saved the World Trade Center Twin Towers from coming down. Nor is it clear to me that a new generation of nuclear weapons will be in the least way an effective counter- terrorism measure.


But even if not a single one of this new generation of weapons which your lab is preparing to develop is ever detonated, the filth used in these endeavors (i.e. plutonium, lithium hydride, etc.) pose enough of a risk to justify the discontinuance of the programs.

We here in Boulder, Colorado have some idea of the mess you're getting deeper into after witnessing the clean up of Rocky Flats going on for years.

Far more than any foreign terrorist attackers sneaking into our country, I fear we are far more threatened by the financial weight and pure filth of our own weapons production systems.

The weapons research and production already going on in your labs is already worse than bad. Why make it worse still?

Yours Sincerely


Jim Bock

1/04.01